User Manual

CMOS 1.3 Mega Pixel IP Vandal Dome Camera

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
DO NOT INSERT ANY METALLIC & ELETRIC CONDUCTIVE OBJECT THROUGH VENTILATION GRILLS.

CAUTION

	CAUTION	
	RISK OF ELECTRIC SHOCK DO NOT OPEN	

CAUTION：TO REDUCE THE RISK OF ELECTRIC SHOCK.

DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

Content

I. PREFACE 4

II. PRODUCT SPECIFICATIONS 4

III. PRODUCT INSTALLATION 6

A. MONITOR SETTING 6

B. HARDWARE INSTALLATION 7

C. IP ASSIGNMENT 10

D. INSTALL ACTIVEX CONTROL: 13

IV. LIVE VIDEO 15

V. IP CAMERA CONFIGURATION 17

A. SYSTEM 18

B. NETWORK 22

C. A/V SETTING 26

D. EVENT LIST 34

VI. NETWORK CONFIGURATION ..... FEHLER! TEXTMARKE NICHT DEFINIERT.

VII. FACTORY DEFAULT 40

VIII. PACKAGE CONTENTS 40

APPENDIX I 41

I. Preface

IP Vandal Dome is a professional CMOS Mega Pixel IP Vandal Dome. It has built-in web server which enables user to view real-time video via IE browser. It also supports simultaneously MPEG-4&JPEG video compression with CMOS M-Pixel Sensor which provides smooth and high video quality. The video can be stored in the SD card, and can be playback remotely.
IP Vandal Dome is an easy-to-use IP Camera which is designed for security application.

II. Product Specifications

- Support IP66 (Weatherproof)
- Support PoE (Power Over Ethernet) - Optional
- Vandal Proof (Polycarbonate shell withstand impact up to 400 pounds)
- MPEG4/ JPEG compression
- Supports SD card for local recording
- 2-way audio
- Support Cell Phone/PDA/3GPP
- Online firmware upgrade

Specifications

Hardware	
Model	HLV-1CM
Image sensor	1/4” CMOS ,1.5 lux
Lens Changeable	Vari-focal lens 3.7~12mm
CPU	ARM 9 ,32 bit RISC
SDRAM	64MB
Flash	8MB
I/O	1 in/ 1 Relay out (COM. & N.O.)
Audio in	1
Audio Out	1

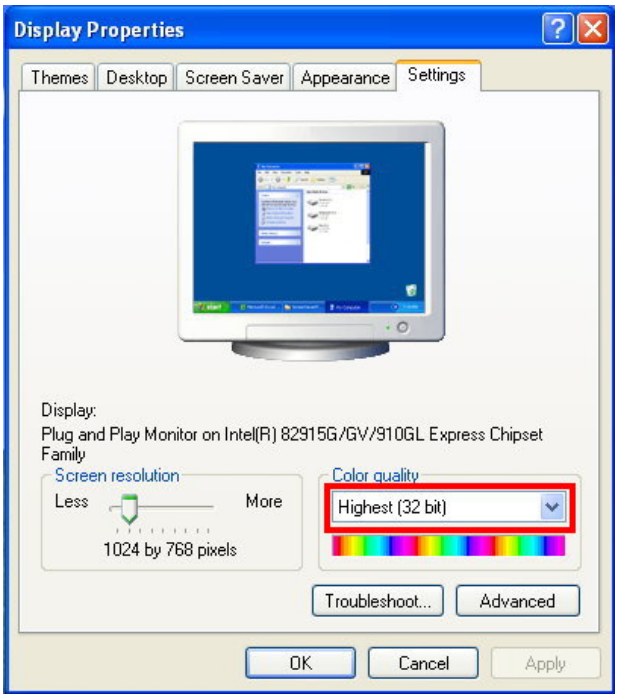
Power over Ethernet (PoE)	Optional
Power Consumption	DC 12V, 490mA
Dimensions	126mm (W) x 126mm (L) x 100mm (D)
Network	
Ethernet	10/ 100 Base-T
Network Protocol	HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, UPnP, 3GPP
System	
Video Resolution	1280x1024, 640x480, 320x240, 160x120
Video adjust	Brightness, Contrast, exposure, sharpness
Dual Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Compression format	MPEG-4/ JPEG
Video bitrate adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP, Save to SD card
Pre/ Post alarm	Yes, configurable
Security	Password protection
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
Audio	Yes, 2-way
SD card management	
Recording trigger	Motion Detection, IP check, Network Status (wire connection only)
Video format	AVI, JPEG
Video playback	Yes
Delete files	Yes

III. Product Installation

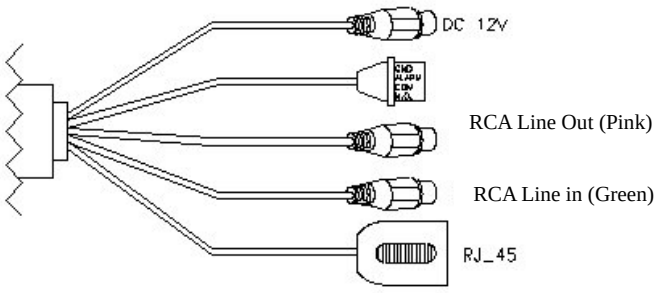
A. Monitor Setting

i. Right-Click on the desktop. Select “ Properties”.

ii. Change color quality to highest (32bit).



B. Hardware Installation



i. Connect power adaptor
ii. Connect Ethernet cable to IP Camera
iii. Connect IP Camera to a computer or Local network.

B -1 I/O Control Instruction

I/O terminal connector – used in application, for e.g., motion detection, event triggering, alarm notifications. It provides the interface to:

1 Digital Input (GND+Alarm) – An alarm input for connecting devices that can toggle between an open and closed circuit, for example: PIRs, door/window contacts, glass break detectors, etc. When a signal is received the state changes and the input becomes active.

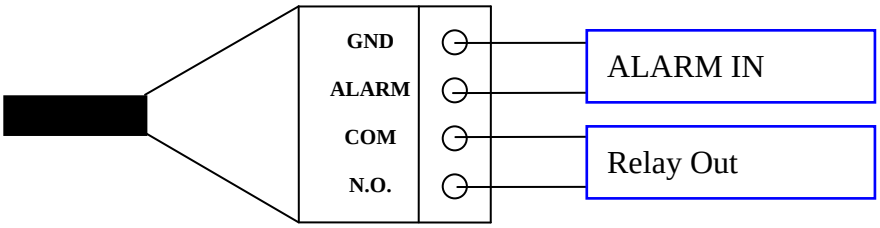
1 Relay output (COM +N.O.) – An output to Relay switch, for example: LEDs, Sirens, etc

Digital Input

Alarm Input
1. GND (Ground) : Initial state is LOW
2. Alarm : Max. 50mA, 12VDC

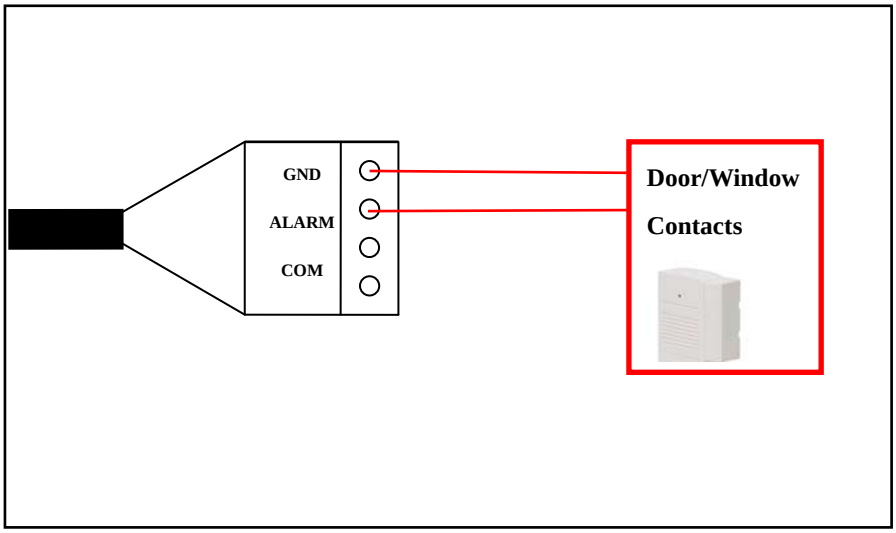
Relay Output

1. COM: (Common)
2. N.O. (Normally Open): Max. 1A, 24VDC or 0.5A, 125VAC

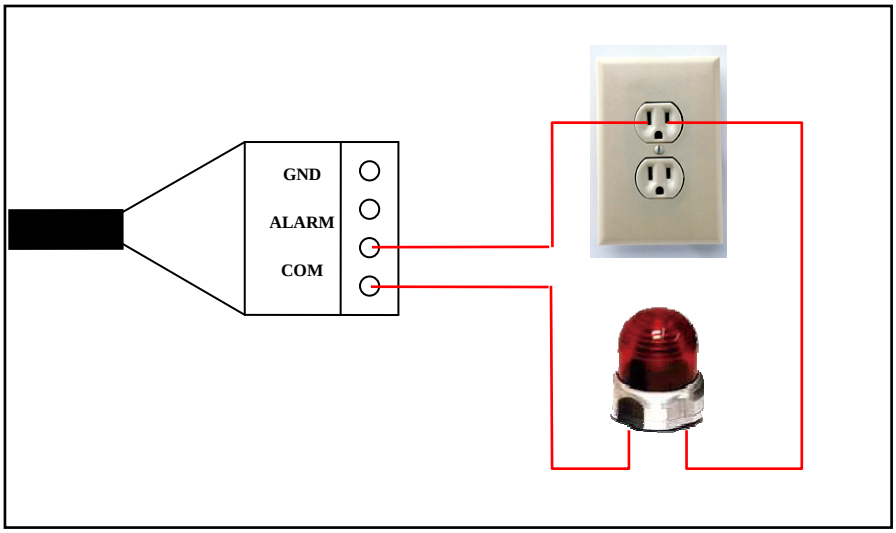


B-2 Relay Connection:

Digital Input connection

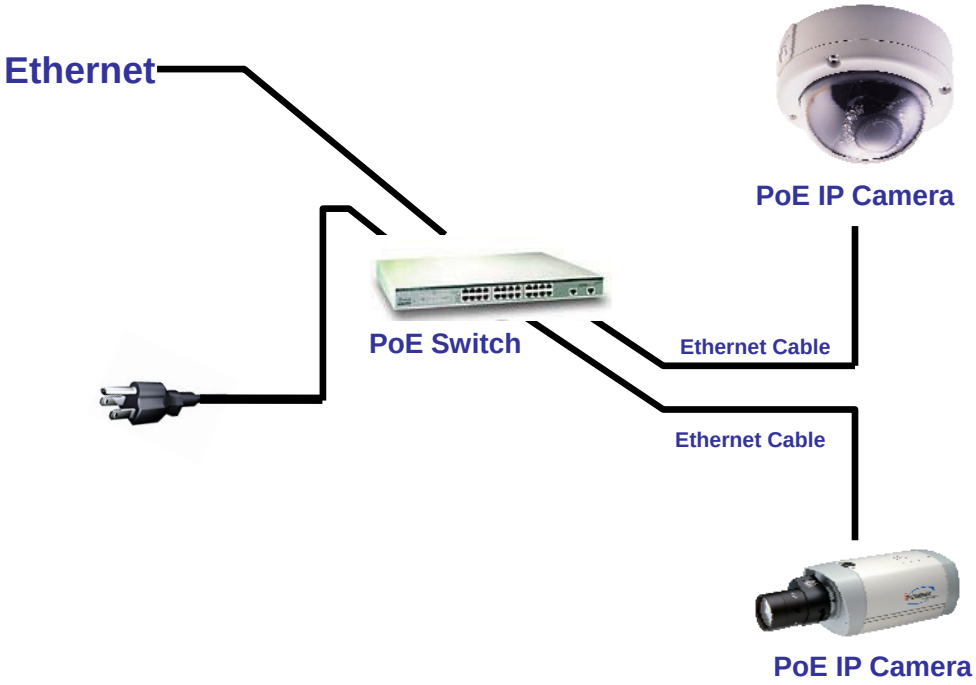


Relay Output Connection



B-3 Power Over Ethernet PoE – (Optional) **802.3af, 15.4W PoE Switch is recommended**

Power over Ethernet (PoE) is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP phone or a network camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations and enables easier application of uninterruptible power supplies (UPS) to ensure 24 hours a day, 7 days a week operation.



C. IP Assignment

i. Use the software, “IP Installer” to assign the IP address of IP Camera. The software is in the attached software CD.

ii. There are two languages for the IP installer

   a. IPInstallerCht.exe：Chinese version

   b. IPInstallerEng.exe：English version

iii. There are 3 kinds of IP configuration.

   a. Fixed IP (Public IP or Virtual IP)

   b. DHCP (Dynamic IP)

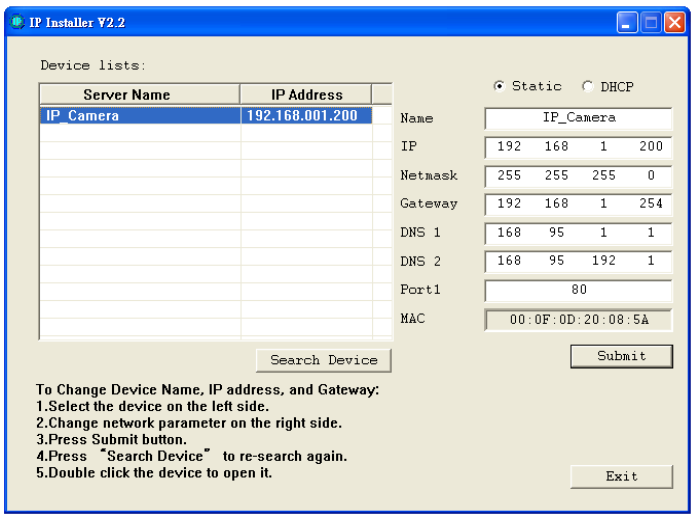
   c. Dial-up (PPPoE)

iv. Please execute IP Installer

v. For Windows XP SP2 user, the following message box may appear. Please click “Unblock”.

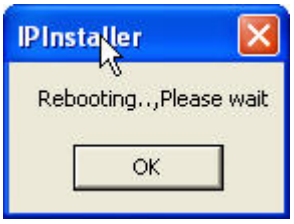
Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.1 Network Device Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

vi. IP Installer configuration:



vii. IP Installer will search all IP Cameras connected on Lan. The user can click “Search Device” to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the “name” of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click “Submit”. The following dialogue box will show. Just click “OK”. It will apply the change and reboot the Device.



ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

The same Subnet:

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

Different Subnets:

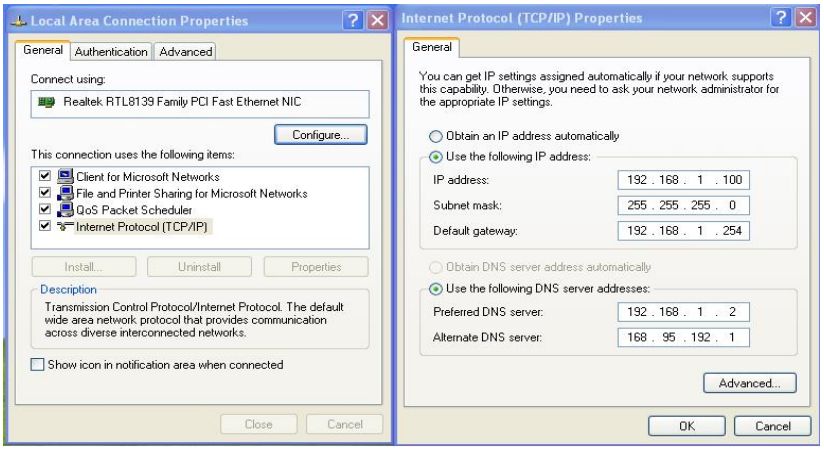
IP CAM IP address: 192.168.2.200

PC IP address: 192.168.1.100

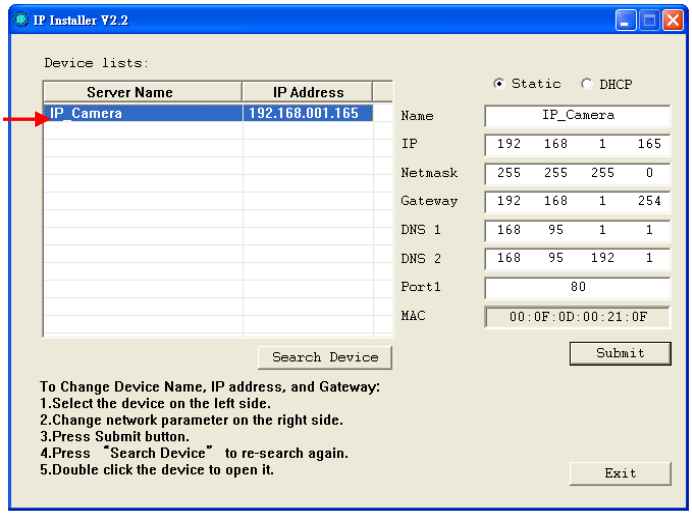
To Change PC IP address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

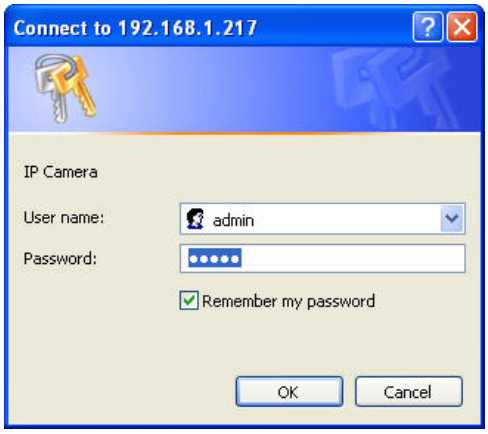
Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.


Local Area Connection Properties
General
Authentication
Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Ethernet NIC
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Close
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 1 . 2
Alternate DNS server: 168 . 95 . 192 . 1
Advanced...
OK
Cancel

x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.



xi. Then, please key in the default “user name: admin” and “password: admin”.



D. Install ActiveX control:

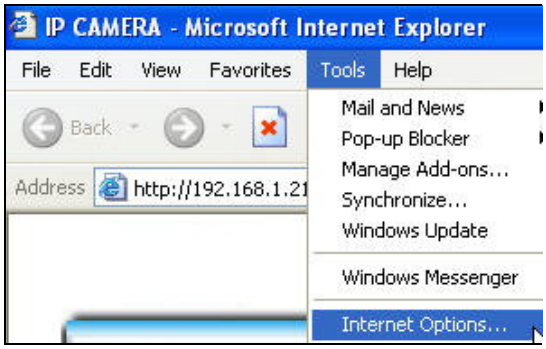
For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

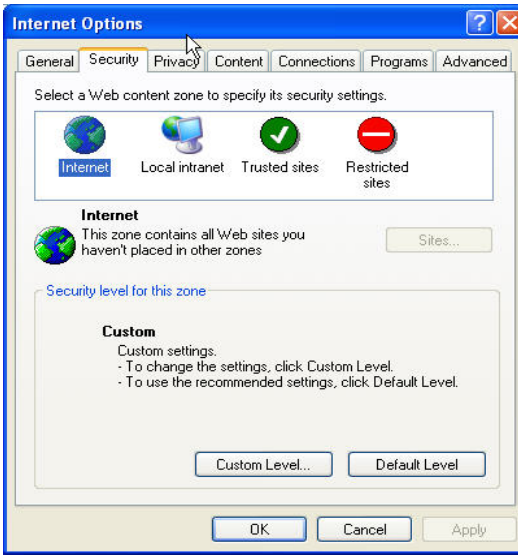
If the installation failed, please check the security setting for the IE browser.

i. IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select "Enable" or Prompt.

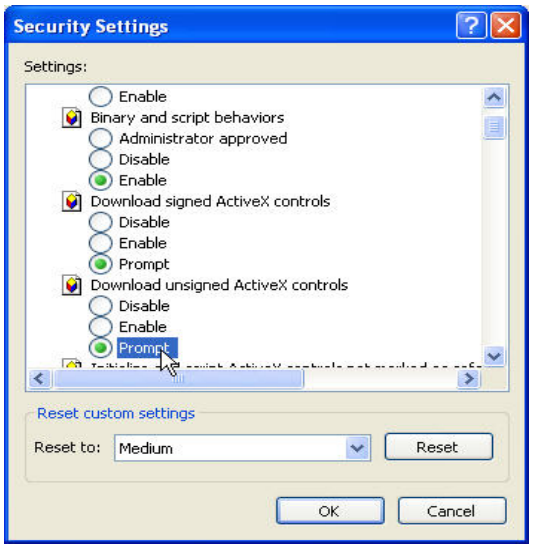
ii. IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

1 **2**





3 **4**

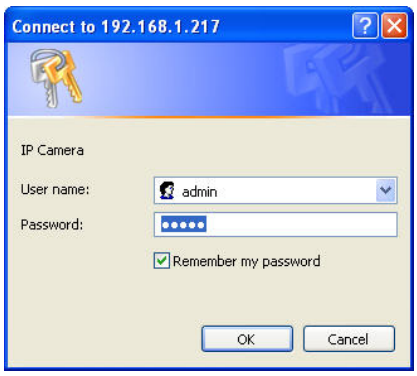


5

When popup the following dialogue box, click “Yes”.

IV. Live Video

Start an IE browser, type the IP address of the IP Camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “**admin**” and “**admin**”.



When connect to the IP Camera ,The following program interface shows.

1. : Get into the administration page
2. : Video Snapshot
3. Show system time, video resolution, and video refreshing rate
4. IP CAMERA supports 2-way audio. Click the “Chatting” check box. Then you can use microphone which connect to the PC to talk to server side, which is IP CAMERA side.
5. Control the relay which is connected to this camera.

Double-click the video, it will change to full screen mode. Press “Esc” or double-click the video again, it will change back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.

1. Snapshot：Save a jpg picture

2. Record Start : Record video in the local PC. It will ask you where to save the video.

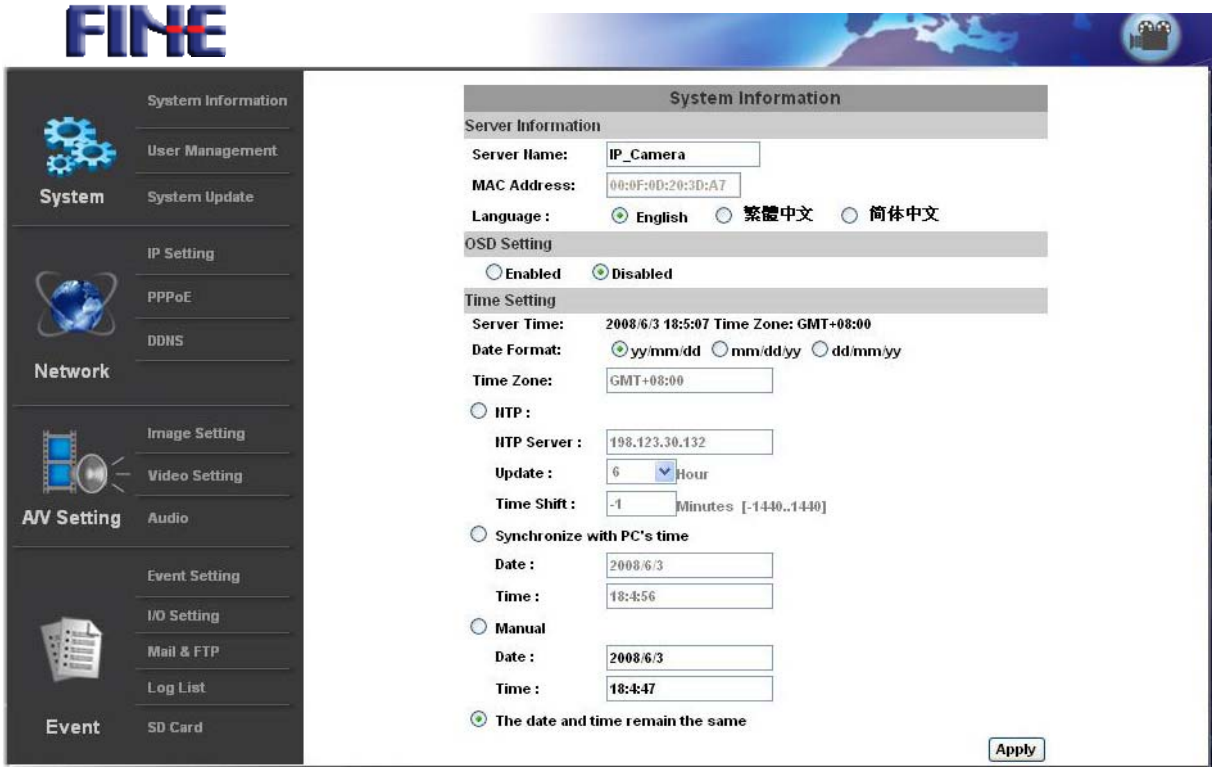
   To stop recording, right-click the mouse again. Select “Record Stop”. The video format is AVI. Use Microsoft Media Player to play the recorded file.

3. Mute：Turn of the audio. Click again to turn on it.

4. Full Screen：Full-screen mode.

V. IP Camera Configuration

Click to get into the administration page. Click to back to the live video page.



A.System

i、 System Information

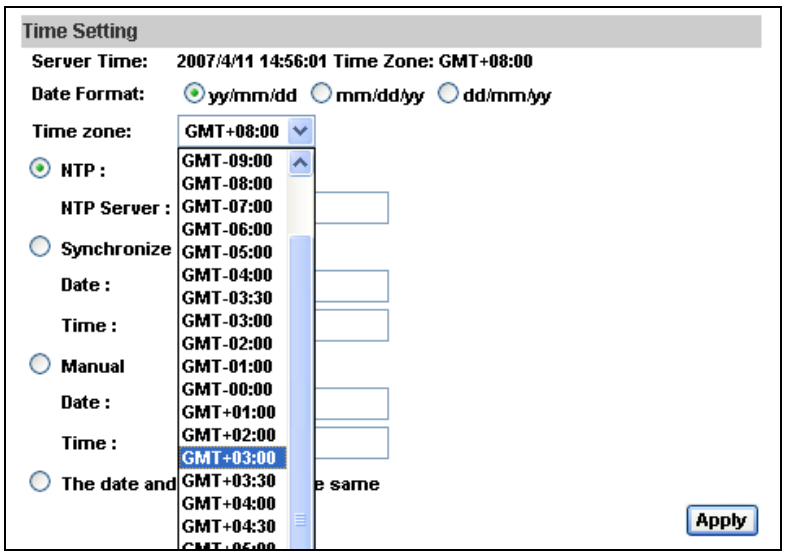
a. Server Information：Set up the camera name, select language, and set up the camera time.

1. Server Name：This is the Camera name. This name will show on the IP Installer.

2. Select language：There are English, Traditional Chinese, and Simple Chinese to select. When changed, it will show the following dialogue box for the confirmation of changing language.

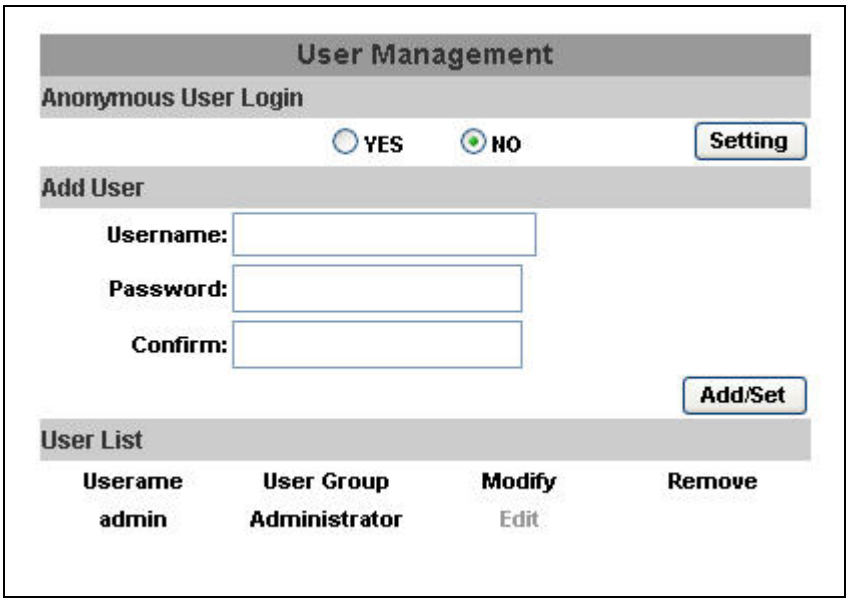
b. Overlay Setting：select a position where date & time display on screen.

c. Server time setting：Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.



ii、 User Management

IP Camera supports three different users, administrator, general user, and anonymous user.



a. Anonymous User Login：

Yes：Allow anonymous login

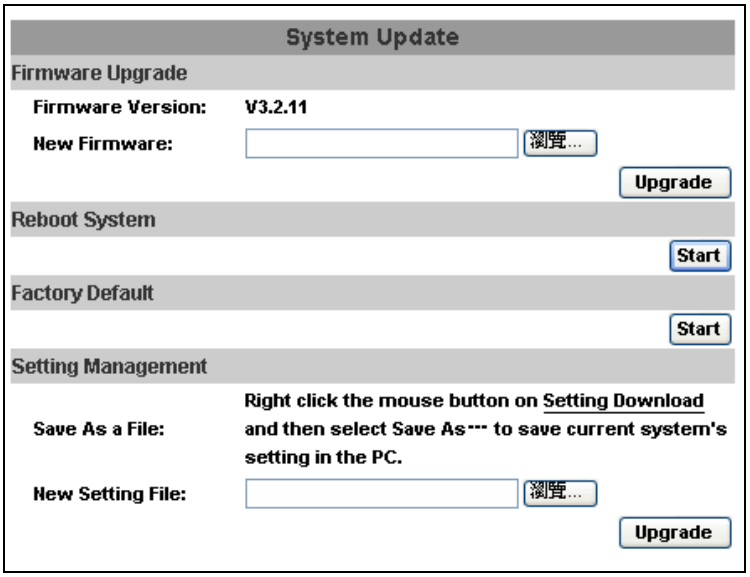
No：Need user name & password to access this IP camera

b. Add user：

Type the user name and password, then click “Add/Set”.

c. Click “edit” or “delete” to modify the user.

iii、 System update：



a. To update the firmware online, click “Browse…” to select the firmware. Then click “Upgrade” to the proceed.

b. Reboot system：re-start the IP camera

c. Factory default：delete all the settings and restore defaults system.

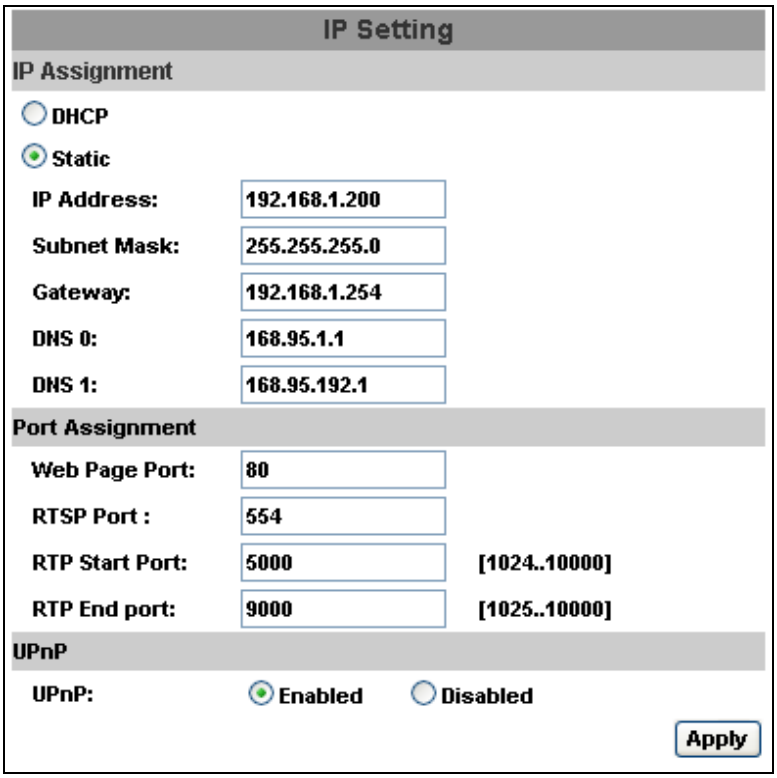
d. Setting Management：User may download the current setting to PC, or upgrade from previous saved setting.

1. Setting download:
   Right-click the mouse button on Setting Download → Select “Save AS…” to save current IP CAM setting in PC → Select saving directory → Save
2. Upgrade from previous setting
   Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

B.Network

i、 IP Setting

IP Vandal Dome supports DHCP and static IP.



a. DHCP：Using DHCP, IP Vandal Dome will get all the network parameters automatically.

b. Static IP：Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.
   1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
   2. RTSP Port: setup port for RTSP transmitting (Default: 554)
   3. RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

d. UPnP

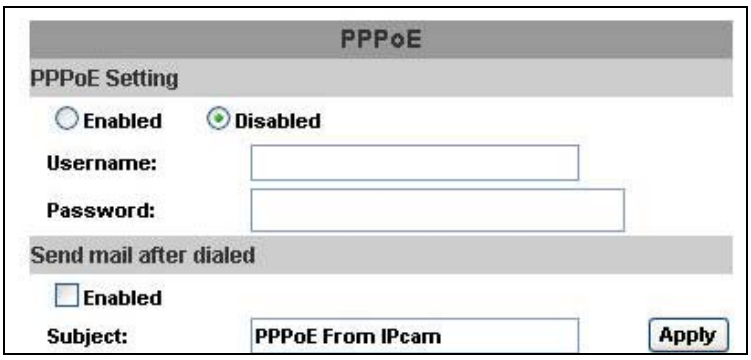
This IP camera supports UPnP, If this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to “My Network Places.”

Note: UPnP must be enabled on your computer.

Please follow the procedure to activate UPnP

1. open the Control Panel from the Start Menu
2. select Add/Remove Programs
3. Select Add/Remove Windows Components and open Networking Services section
4. Click Details and select UPnP to setup the service
5. The IP device icon will be added to “MY Network Places”
6. User may double click the IP device icon to access IE browser

ii、 PPPoE：



Select “Enabled” to use PPPoE.

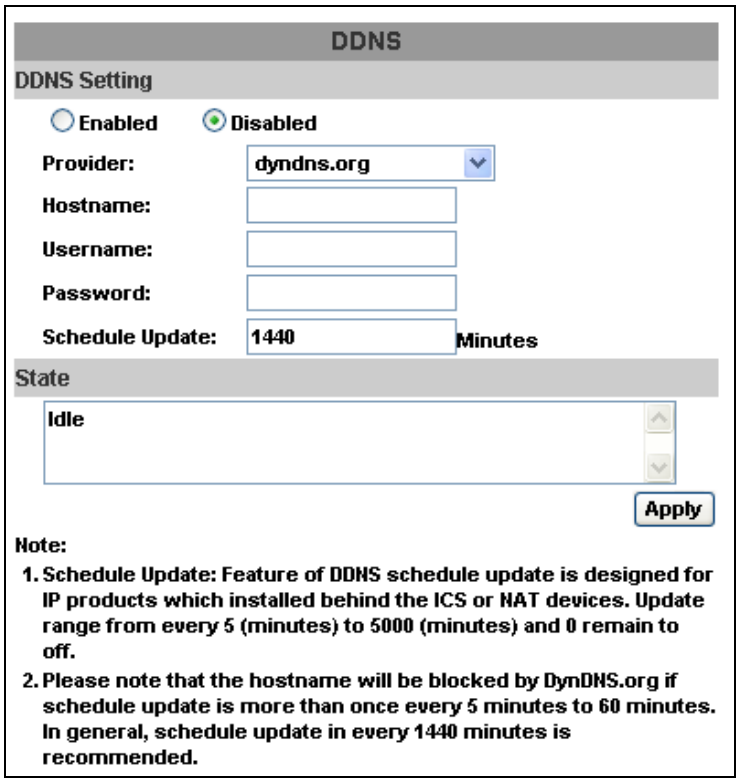
Key-in Username and password for the ADSL connection.

Send mail after dialed：When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to “Mail and FTP” settings.

iii、 DDNS：

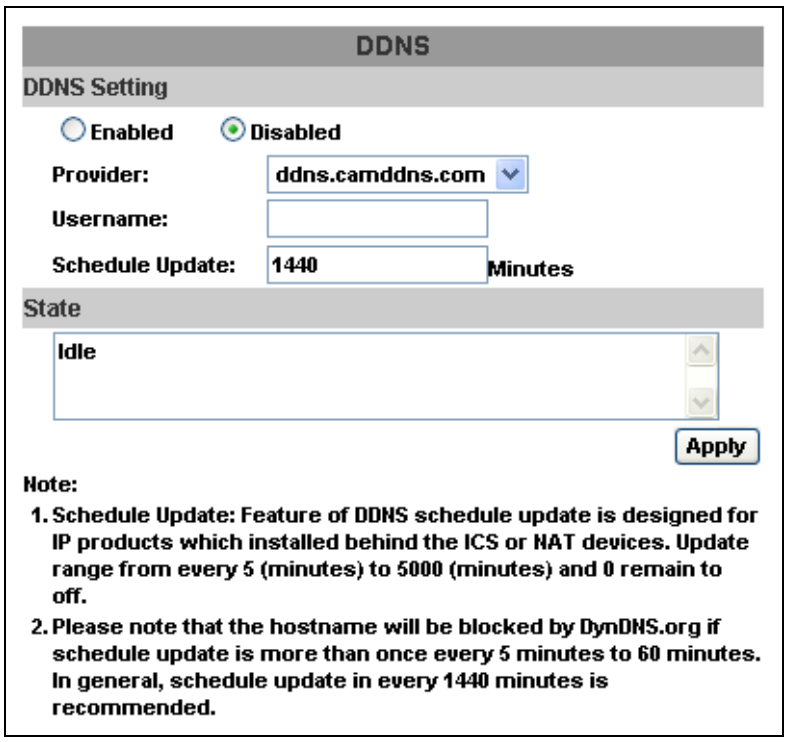
IP Vandal Dome supports DDNS (Dynamic DNS) service.

a. DynDNS：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
dyndns.org
Hostname:
Username:
Password:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Please enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update refreshing rate.
4. Click “Apply”
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

b. Camddns service：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
ddns.camddns.com
Username:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Please enable this service
2. Key-in user name.
3. IP Schedule update is default at 5 minutes
4. Click “Apply”.

c. DDNS Status

1. Updating：Information update

2. Idle：Stop service

3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com：Register successfully.

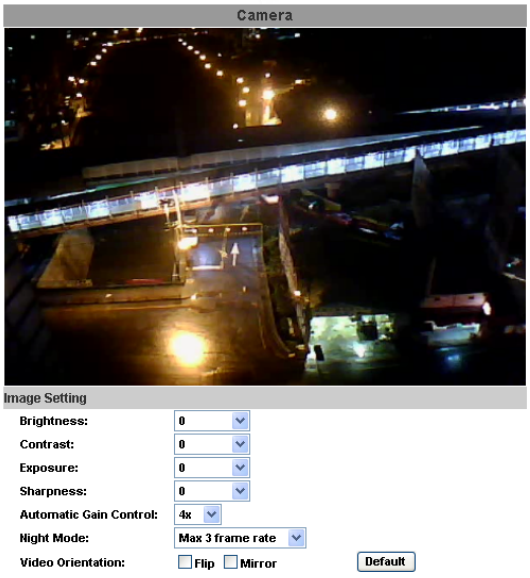
4. Update Failed, the name is already registered：The user name has already been used. Please change it.

5. Update Failed, please check your internet connection : Network connection failed.

6. Update Failed, please check the account information you provide：The server, user name, and password may be wrong.

C.A/V Setting

i、 Image Setting



Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” to get clear video. Automatic gain control, night mode, and video orientation are adjustable.

Night mode:

This function can be set at different Frame rate to increase night illumination. Lower the Frame rate set, slower the frame refresh rate, but better the night illumination.

Night mode will be activated automatically depending on lux illumination, if set at 15 frame rate, when night mode activated at night, the frame rate will not be more than 15FPS

ii、 Video Setting

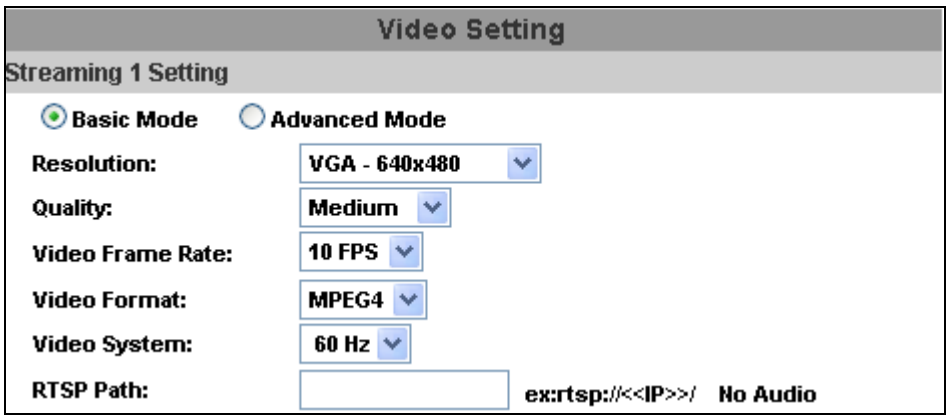
User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

(Max Video Frame Rate for both streaming combined is 30 FPS)

a. Streaming 1 Basic Mode：



1. Resolution：

   There are 4 resolutions to choose.

   SXGA – 1280×1024　　VGA – 640×480

   QVGA – 320×240　　QQVGA – 160×120

2. Quality：

   There are 5 levels to adjust. The higher the quality is, the bigger the file size is.

3. Video Frame Rate:
   The video refreshing rate per second
   Max 30 FPS (10FPS at resolution 1280x1024)

4. Video Format：

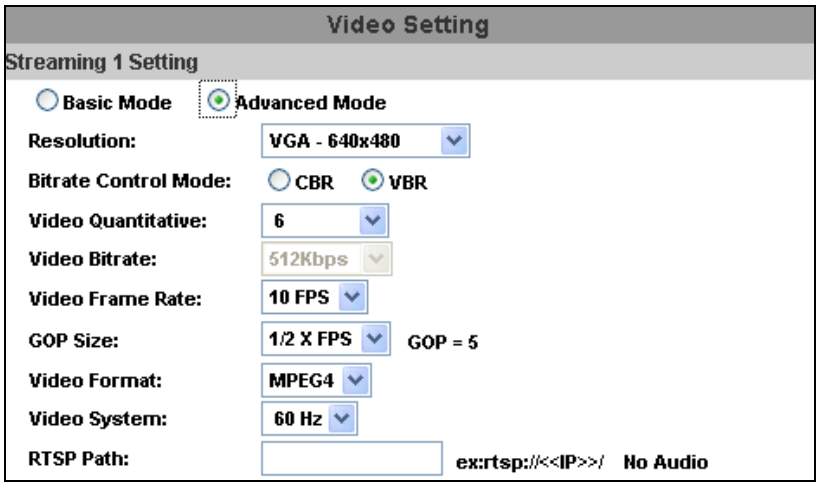
   There are 2 Video Formats to choose
   MPEG4 or JPEG.

5. Video System：

   Please select 60 (Hz) if you are in America, Taiwan…
   Please select 50 (Hz) if you are in Europe, China…

6. RTSP Path: RTSP output name

b. Streaming 1 Advanced Mode：



1. Resolution：

   There are 4 resolutions to choose.

   SXGA – 1280×1024　　VGA – 640×480

   QVGA – 320×240　　QQVGA – 160×120

2. Bitrate Control Mode

   There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

   CBR：32Kbps~4Mbps (the higher the CBR is, the better the video quality is , vice versa)

   VBR：1~10 (Compression Rate)

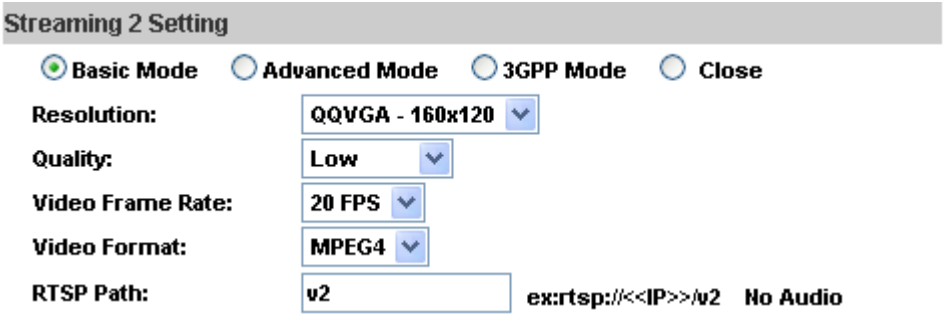
3. Video Frame Rate
   The video refreshing rate per second.
   Max 30 FPS (10FPS at resolution 1280x1024)
4. GOP Size
   It means "Group of Pictures". (The higher the GOP is, the better the quality is, vice versa)
5. Video Format：MPEG4 or JPEG

7. Video System：

   Please select 60 (Hz) if you are in America, Taiwan…
   Please select 50 (Hz) if you are in Europe, China…
6. RTSP Path: RTSP output name

c. Streaming 2 Basic Mode：

(Dual Streaming is supported only when resolution is set at VGA or below)



1. Resolution：

   There are 4 resolutions to choose.

   SXGA – 1280×1024　　VGA – 640×480

   QVGA – 320×240　　QQVGA – 160×120

2. Quality：

There are 5 levels to adjust. The higher the quality is, the bigger the file size is.

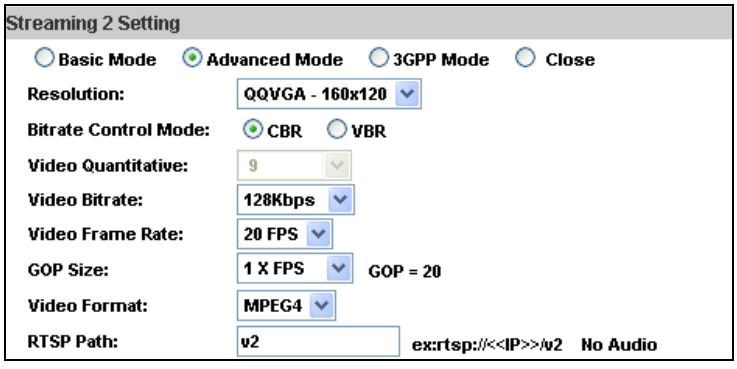
3. Video Frame Rate:
   The video refreshing rate per second

4. Video Format：

   There are 2 Video Formats to choose
   MPEG4 or JPEG.

5. RTSP Path: RTSP output name

d. Streaming 2 Advanced Mode：



1. Resolution：

   There are 4 resolutions to choose.

   SXGA – 1280×1024 VGA – 640×480

QVGA – 320×240 QQVGA – 160×120

2. Bitrate Control Mode

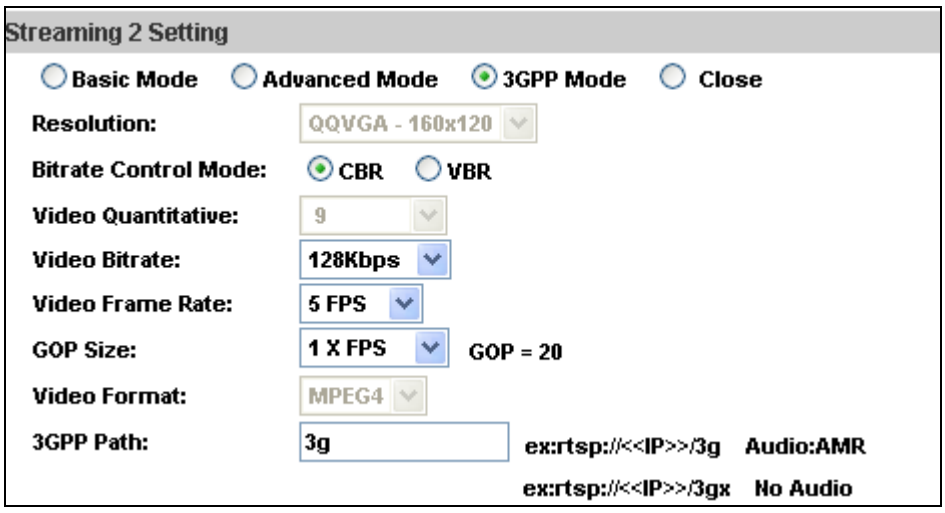
   There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

   CBR：32Kbps~4Mbps (the higher the CBR is, the better the video quality is)

   VBR：1~10 (Compression Rate)

3. Video Frame Rate
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. RTSP Path: RTSP output name

e. Streaming 2, 3GPP mode:



3GPP default value is QQVGA，128Kbp，5FPS，GOP=1XFPS

3GPP mode suggested setting: QQVGA, lower than 128kbps, 5FPS, GOP= 1x FPS or 2x FPS, MPEG4 format

3GPP can achieve up to 10FPS, In 3GPP mode, Stream 1 & Stream 2 combined frame rate is 20FPS

1. Fix Resolution：

   QQVGA – 160×120

2. Bitrate Control Mode

   There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

   CBR：32Kbps~320bps (the higher the CBR is, the better the video quality is)

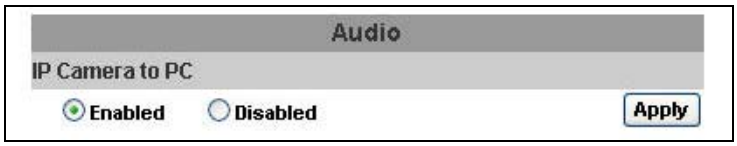
   VBR：1~10 (Compression Rate)

3. Video Frame Rate **(5 FPS is recommended)**
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. 3GPP: 3GPP output name

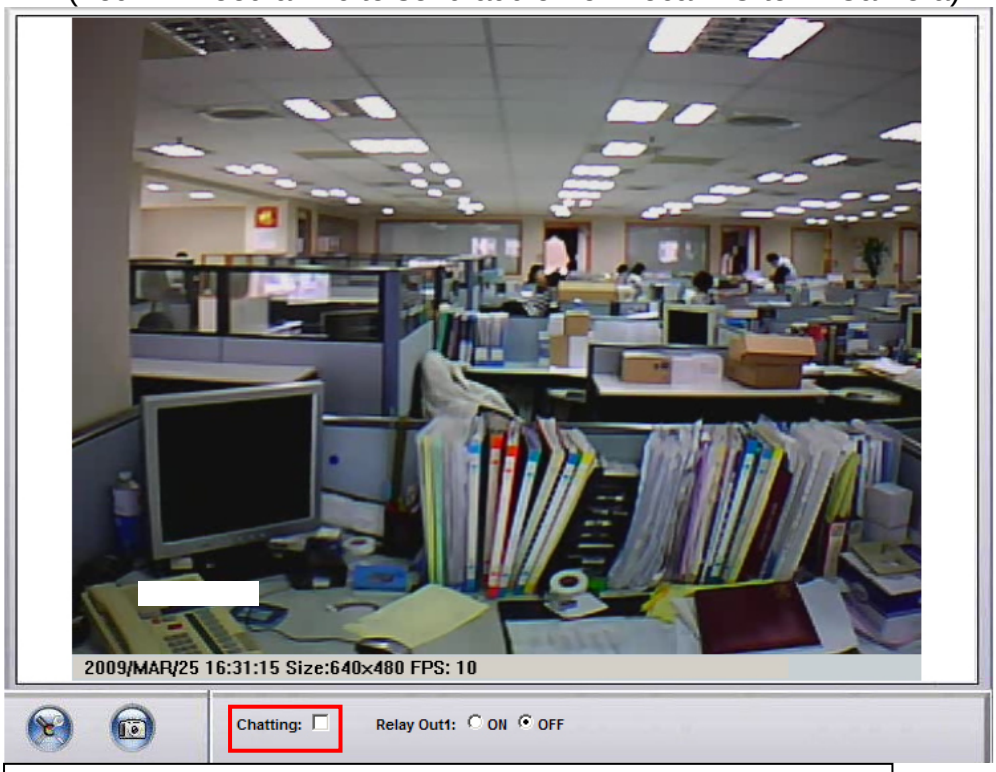
iii、 Audio：

IP Vandal Dome supports 2-way audio.

a. For IP camera to local PC, select “Enable” to start this function (When enabled, you can send audio via external mic in the IP Camera)



b. For local PC to IP camera, check “chatting” in the browsing page (You will need a mic to send audio from local PC to IP Camera)

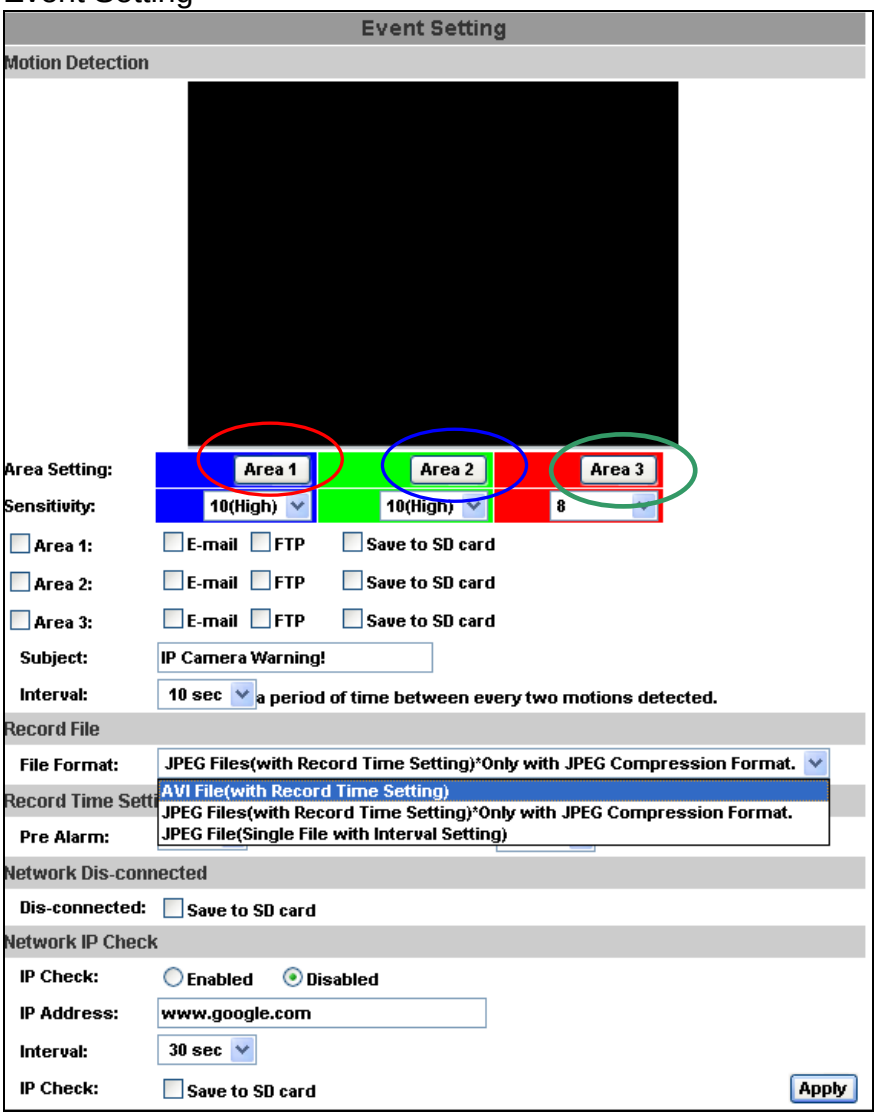


The Audio will not be smooth when enable SD card recording function simultaneously.

D.Event List

IP Vandal Dome provides multiple event settings.

i、 Event Setting



a. Motion Detection

IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send video to some specific mail addresses, transmit video to remote ftp server, trigger the relay, and save video to local SD card. To set up the motion area, click “Area Setting”. Using mouse to drag and set the area. The same operation for area 2 and 3.

b. Record File Setting: It provides 3 kinds of recording file type

1. AVI file (with record time Setting)
2. JPEG file (with record time setting) only with JPEG compression format
3. JPEG file (single file with interval setting)

c. Record Time Setting：Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered.

Note: Pre/Post Alarm record time is base on record time setting and IP Cam built-in Ram memory. Limited by IP Cam built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

d. Network Dis-connected

When the network is down, it will save the video to local SD card. This function is only enabled in wire connection.

e. Network IP check

For the use of recording software, IP CAMERA supports the detection of network connection. Whenever the connection is down, it records the video to SD card. To use this function, key in the IP address of the PC which is installed in the recording software, and enable the function of “Save to SD card”, then click “Apply”.

The interval of two video files on SD card is fixed with 30 seconds.

ii、 I/O Setting

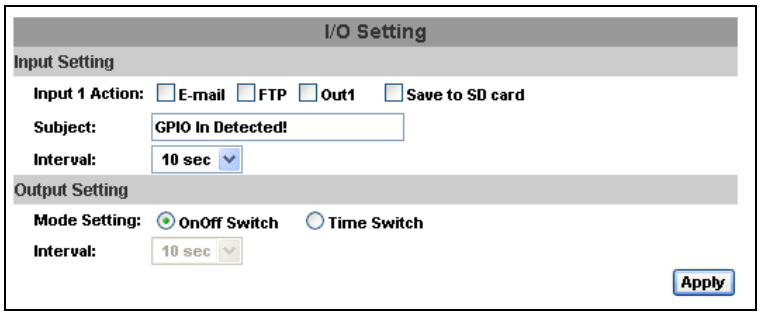
IP Camera supports 1 input/ 1 output.

a. Input Action: When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card.

b. Output Setting:

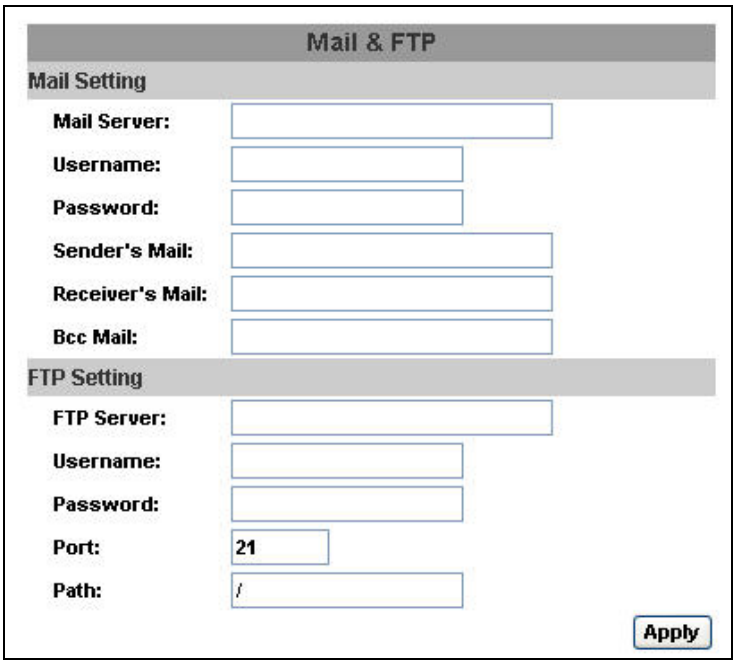
OnOff Switch mode – Output On or Off to relay

Time Switch mode – Output interval to relay can be set



iii、 Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.



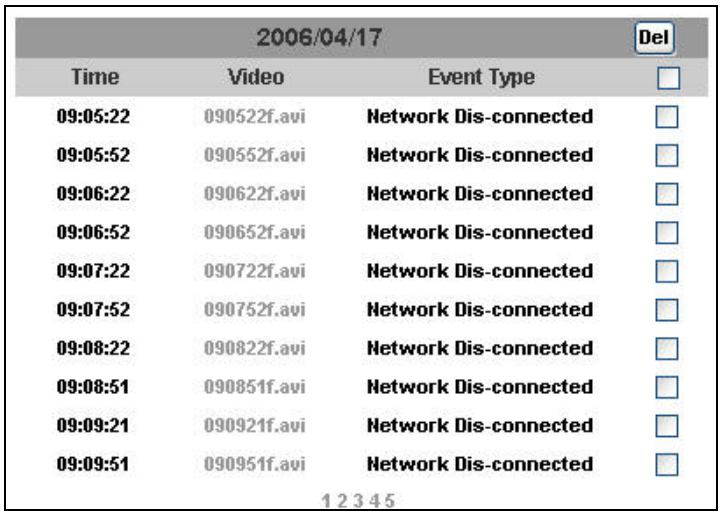
iv、 SD card

Please Insert SD card before use it. Make sure pushing SD card into the slot completely.

Note：The use of the SD card will affect the operation of the IP

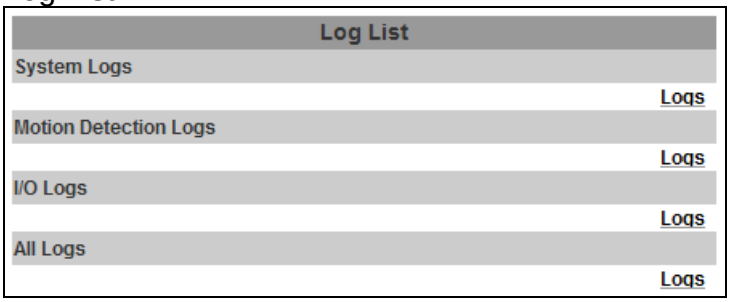
a. Playback：

1. It will show the capacity of the SD card. Click the date listed on this page. It will show the list of the video.



2. The video format is AVI. Click the video to start Microsoft Media Player to play it.
3. To delete the video, check it, then click Del. When the SD card is full, it will remove the oldest video automatically.

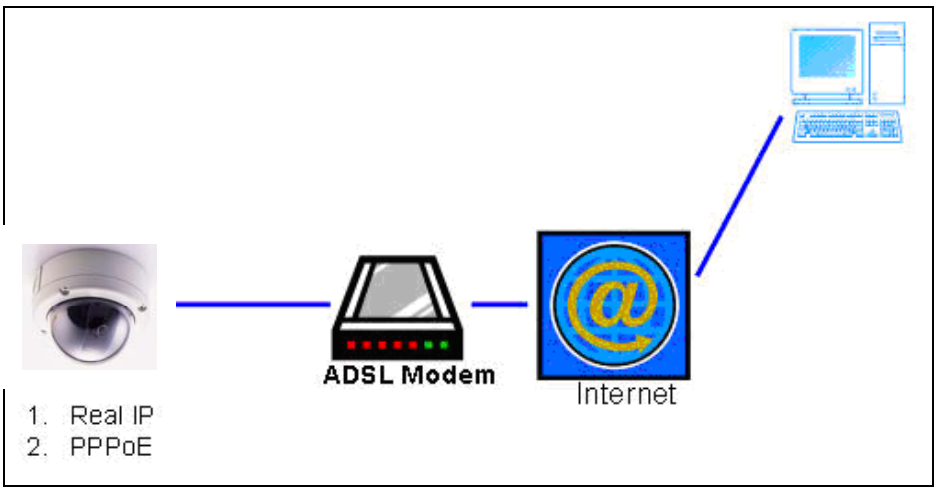
v、 Log List



Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

VI. Network Configuration

i、 Configuration 1：



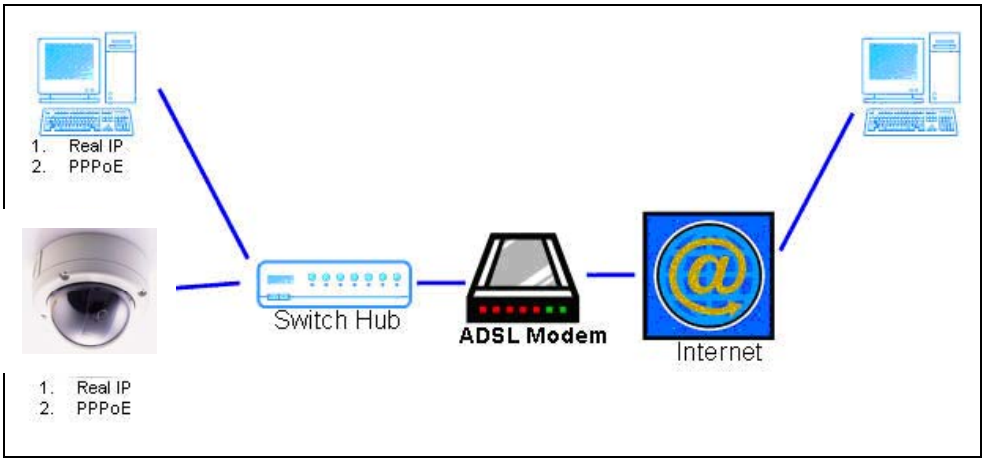
a. Internet Access：ADSL or Cable Modem

b. IP address：One real IP or one dynamic IP

c. Only IP Vandal Dome connects to the internet

d. For fixed real IP, set up the IP into IP Vandal Dome. For dynamic IP, start PPPoE.

ii、 Configuration 2：



a. Internet Access：ADSL or Cable Modem

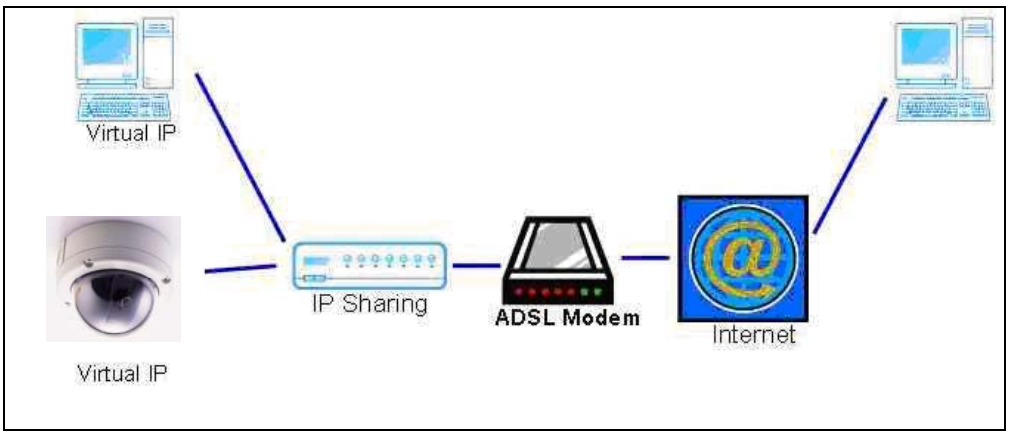
b. IP address：More than one real IP or one dynamic IP

c. IP Vandal Dome and PC connect to the internet

d. Device needed：Switch Hub

e. For fixed real IP, set up the IP into IP Vandal Dome and PC. For dynamic IP, start PPPoE.

iii、 Configuration 3：



a. Internet Access：ADSL or Cable Modem

b. IP address：one real IP or one dynamic IP

c. IP Vandal Dome and PC connect to the internet

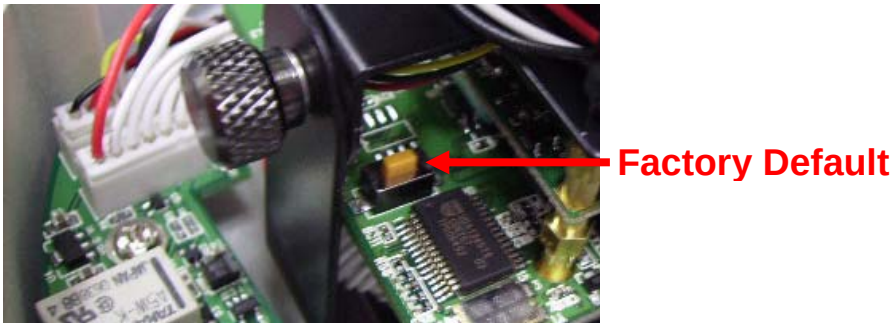
d. Device needed：IP sharing

e. Use virtual IP, set up port forwarding in IP sharing.

VII. Factory Default

i、 To recover the default IP address and password, please follow the following steps.

ii、 Press and hold the button in the back of IP Vandal Dome.



iii、 Power on the camera. Don't release the button during the system booting.

iv、 It will take around 30 seconds to boot the camera.

v、 Release the button when camera finishes proceed.

vi、 Re-login the camera using the default IP (http://192.168.1.200), and user name (admin), password (admin).

VIII. Package contents

i、 CMOS 1.3 Mega Pixel IP Vandal Dome Camera

ii、 Adaptor

iii、 Ethernet Cable

iv、 CD title (User manual, IP installation Utility)

Appendix I

SD Card Recommended：

SanDisk 128M	Transcend 128M 80X
SanDisk 256M	Transcend 256M 80X
SanDisk 512M	Transcend 512M 80X
SanDisk 1G	Transcend 1G 80X
SanDisk 2G	Transcend 2G 80X
SanDisk 4G	Transcend 4G 80X